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Let's Get Moving: The Benefits of Increased Physical Activity in First Grade Classrooms

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Abstract

The focus of this Capstone Project is the need for an increase in physical activity for first grade students.The issue addressed is how to increase opportunities for movement for students.This is important because the amount of time required to sit still throughout the school day is not developmentally appropriate, which can hinder their ability to learn, and can lead to physical and mental health issues. An argument is made that first graders should be given more opportunities for movement throughout their day, both during and outside of school hours. It is argued that this would benefit students academically, physically, and mentally. An evidence based argument is offered that students who engage their vestibular and proprioceptive sensory processing systems are more likely to have increased focus and academic success. The primary stakeholder perspectives chosen were parents and teachers, because they hold the power to make a difference for students.Three action options emerged from an analysis of the data and explored as ways to address the issue presented. Implementing Brain Breaks and a Moveable Classroom Management Style are argued to be the most effective ways to achieve the goal of increasing physical movement throughout the day.

Keywords: physical activity in schools, elementary physical education, movement

Not only have I been a student for the past 21 years of my life, but I have also had the honor of supporting my son through the last three years of his schooling journey. It is from these experiences that I have come to realize the need for an increase of opportunities for physical activity throughout the school day. While the following story is my own personal experience, after working in school settings and talking to many parents, I believe it is a common struggle for a large number of students and one worth addressing.

As a child, I had a rather calm demeanour, so I remember being quite satisfied with my daily school schedule. I enjoyed my recess and lunch breaks playing outside, and felt refreshed and ready to learn by the time the elementary school bell rang. It was not until I was in middle and high school, and the homework load increased, that I began to struggle with the amount of sitting and intense focus that was required to do well academically. From this personal experience, I did not expect any similar issues to arise for many more years down the road for my child, however this was not the case.

My son Blake has always been an active little guy; it feels as though I have been chasing after him ever since he learned how to walk at nine months old. He is now an incredibly inquisitive, creative, kind, and energetic seven year old. He loves being outdoors, whether we are hiking, gardening, riding bikes, or hunting lizards, he is happy as long as he is moving and breathing in the fresh air. Like most children, his curious mind enjoys fully engaging during these activities which often leads to a million questions on whatever we come across. It was because of these qualities in him that I was excited for his formal education to begin to further foster his love of learning.

Unfortunately, my excitement quickly turned to fear and sadness. At Blake's first parent teacher conference in kindergarten, I was informed that he was rapidly falling behind, and that he

spent a good portion of his time sitting by himself in timeout. He was never unkind or a troublemaker, but he struggled with following the strict routines and keeping his tiny body still. I remember volunteering in his classroom and feeling my stomach drop when he would burst into tears when his teacher sent him to his desk for causing a distraction. He was not crying because he was upset at his teacher or because of the punishment, he was upset at himself for yet again failing to meet the classroom's standards.

Despite his rough first year, Blake continued on to first grade. I got a job as his teacher's aide in order to keep an eye on him and ensure this year went better. Despite my best efforts, this was not the case. I clearly remember the day his teacher pulled me aside and suggested I medicate him to improve his focus. I was devastated, I knew he was struggling but I never thought it was to that extreme, especially compared to all of the other wiggly and chatty first graders in his class. I asked what else could be done to help him, and she stated that she had done everything she could think of, which was mainly punishing him for incomplete work by keeping him inside to make it up during his recess and lunch time. His self esteem was at an all-time low and his love of learning was gone. Ever since he was a young boy, he wanted to grow up to be a Bug Scientist; so when he came to me one day and told me he would never be smart enough to be a scientist, and instead wanted to become a baker because he could at least manage that, I knew something had to change.

After countless hours of reading parenting books, articles on pediatric psychology, and taking my son to several doctors and a therapist to be evaluated, I came to the conclusion that it was in Blake's best interest to repeat first grade in a different setting. All of the tests and evaluations pointed to a healthy, typical little boy who simply struggled with the expectations and constraints of his environment. During this time, the COVID-19 pandemic was increasing in

severity, so it was expected that children would continue virtual learning the following school year. I took this opportunity to fully involve myself in Blake's education, and try to turn things around.

I set up our spare bedroom as Blake's workspace, complete with a miniature trampoline and several seating options that allowed him to rock and bounce while seated. We began each morning with a walk around the block, and then broke up his school work into manageable time chunks, spread throughout the day. Every 45 minutes he would take a break to play outside, help in the garden, or go for a bike ride. He grew more self aware and anytime he felt his focus slipping away, he would set a timer for two minutes and jump on his trampoline. Blake is now seven months into the school year, and just received his second report card. In the comments section his teacher wrote, "Blake has made great progress during our second trimester. Blake has met all of our benchmarks in reading and math... In our online learning Blake is doing a great job at being a respectful listener and following our zoom rules. He shows consistent effort with turning his work in on time. I look forward to watching him continue to grow in our third trimester!". While his academic improvement is a relief, the most promising aspect is the improvement of his self esteem and his renewed love of learning. He once again aspires to be a "Bug Scientist".

I realize that many parents do not have the luxury to devote as much time to supporting their students through daily bike rides and hikes, as well as the limitations of cost and space when it comes to creating an in-home environment conducive to learning. It appears that the pandemic may be nearing its end sometime soon, so it is my sincere hope that through further research, more solutions will be found to support Blake and all students like him who benefit so greatly from the increased ability to move their bodies throughout the school day. In the

following section I will discuss the issue in more detail, and explore the solutions currently suggested by researchers in the field.

Literature Synthesis & Integration: Importance of Physical Activity

Elementary school-aged children, specifically first graders, have high expectations placed upon them, both academically and behaviorally. The modern-day classroom model of requiring students to sit still for long periods of time is not developmentally appropriate for this age group, which can hinder their ability to learn, and can lead to both physical as well as mental health issues (ParticipACTION, 2016). The COVID-19 pandemic exacerbated these negative effects by significantly affecting students' daily routines and confining many students to their homes for an extended period of time (Kurt, 2021). The limited physical activity, both pre-pandemic and during virtual schooling, is an issue that needs to be addressed in order for students to receive the most productive and beneficial learning experience possible.

What is the problem?

In California, elementary schools are legally required to allot three hours and 20 minutes of physical activity per 10 days of school, which averages out to 20 minutes per day (California Department of Education, 2021). According to the American Heart Association, children should get at least 60 minutes of physical activity a day. While this recommendation is widely known, only 3.6% of elementary schools in America require that their students receive the full amount on a daily basis (School Health Policies, 2014). In order to understand how this lack of incorporated physical activity is the norm, it is crucial to know how the modern school day came to be.

The role of physical movement in public elementary school classrooms, and its effect on first graders, has been an issue since the start of public education in the United States. While

organized schooling existed prior to the 1830's, it was after this decade that the practice of "the common school" rapidly spread across the nation (Gutek, 2019). This common school focused on teaching reading, writing, spelling, arithmetic, history, geography, American patriotism, and Christian piety. These early schools usually consisted of one-roomed buildings where all of the students would gather to listen to lectures. Due to the cramped nature of the school houses, it was customary for students to spend the majority of the time sitting and listening.

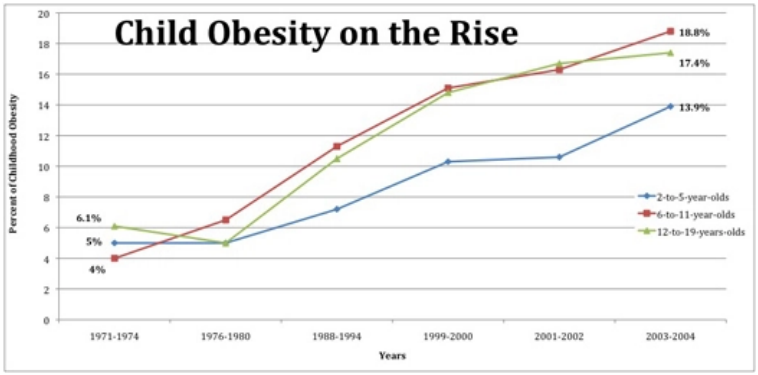
Why is it an issue?

While there have been many advancements in other aspects of public education, it has remained common practice that the majority of students' time spent in class constitutes them sitting still in their seats, with two minimal breaks to eat and play outside. This is a problem because sitting still for long periods of time is not developmentally appropriate for this age group. It has been shown that physical movement is a crucial element for learning using children's three main sensory processing systems, which are visual, vestibular, and proprioceptive (Burgoyne, 2015). Children's brains take in visual input, which is typically how information at school is presented to them. Their brains are also simultaneously processing vestibular and proprioceptive inputs, which tells them where their body parts are in relation to its other parts and the objects around them, as well as the amount of energy needed to move them. These inputs are all required for the brain to activate certain muscles so that the body can move in a coordinated manner in which it can interact with its environment. The traditional first grade classroom does not allow students many opportunities to engage all three systems so they are incapable of reaching their full learning potential. Additionally, this lack of movement takes a toll on student behavior and health.

According to research, student aggression, especially in young males, has been an increasing complaint from educators across the nation (Holmes, 2013). This aggression is most commonly expressed in the form of bullying and physical violence. These outbursts are a pervasive problem that hinders students' ability to succeed academically and socially, as well as threatens the safety of students and teachers. In regards to health, researchers with the Children's Nutrition Research Center at Baylor College of Medicine (2014) have found that the increasing rates of childhood obesity, as shown in Figure 1, has a multitude of impacts on students. These impacts include insulin resistance, dyslipidemia, and higher risks for developing cardiovascular disease. While obesity has many potential causes, the lack of movement throughout their day is likely a contributing factor.

Figure 1

Graph of the rise in obesity in children from 1971 through 2014

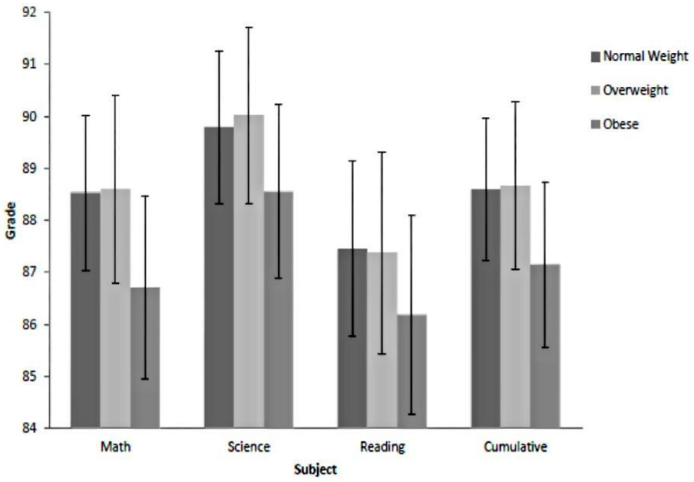


Rodriguez, C. (2017, March 30). Graphic with narrative on childhood obesity. Creative Commons. http://erubiet99.blogspot.com/2017/03/graphic-with-narrative-on-childhood.html.

While the physical effects of obesity are detrimental to health, it also affects students' ability to succeed academically. The students had their body mass index calculated and then compared to their scoring on a standardized test which covered math, science, and reading. Figure 2 shows the results of their study.

Figure 2

Graph of the differences in grades across three subjects categorized by body composition



Johnston, C., Moreno, J., Chen, T., Stansberry, S., & Woehler, D. (2014). *Impact of pediatric obesity on grades in elementary school.* Creative Commons. https://files.eric.ed.gov/fulltext/EJ1188871.pdf

Across all three of the subjects tested, obese students scored significantly lower than their overweight and normal weight classmates (Johnston, 2014). Although weight and test scores show correlation, it has not been shown that one causes the other. One possible explanation for this association is teacher bias. Not only do teachers have the ability to influence their students'

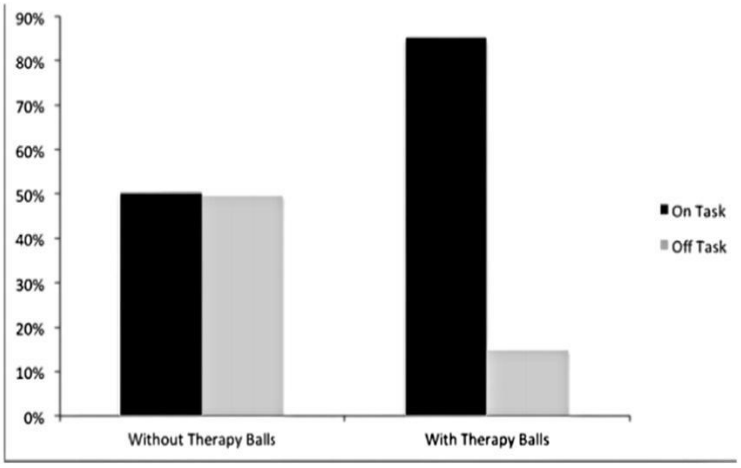
attitudes towards physical activity, they can also subconsciously affect their academic success. The researchers at Baylor College of Medicine found that teachers are subject to Pygmalion and Golem effects. These effects describe the trend of teachers adjusting their expectations of students based on their physical appearance, specifically weight. The studies show that when teachers expect less from students, the students tend to perform worse than they would have in a neutral environment. Similarly a study done at the University of San Diego, found that some teachers hold preconceived expectations of students' academic ability based on factors of appearance such as weight and race (Contrearas, 2011). While this is a complex issue and there are a multitude of factors that can contribute to childhood obesity, increased physical activity throughout the day can be one possible way to help combat it. The Johnston study (2014) pointed out that similar findings have shown support that this trend only intensifies as children move up in grade level. The earlier that elementary school students have physical activity incorporated into their classroom, the less likely obesity will play a negative role in their academic journey..

What should be done?

Possible options to combat the lack of physical activity in classrooms both pre-pandemic and during virtual learning, are to use therapy balls instead of standard chairs, and incorporate Brain Breaks into daily routines (Perera, 2015). The more unconventional option, substituting chairs with therapy balls, has data to support its effectiveness (Burgoyne, 2015). By increasing vestibular and proprioceptive inputs through switching out standard chairs for therapy balls, students were able to significantly increase their focus on classroom tasks, as depicted in Figure 3. The study done by researchers in North Carolina found that they are more conducive for an effective learning environment than standard chairs revealing that 50% of students stayed on task in chairs, while 85% of students stayed on task while sitting on therapy balls (Burgoyne, 2015).

Figure 3

Graph of the Percentage of students on and off task with standard chairs versus therapy balls



Burgoyne, M., & E.,Ketcham, C. (2015, June 30). *Observation of classroom performance using therapy balls as a substitute for chairs in elementary school children*. Creative Commons. https://eric.ed.gov/?q=classroom+movement&pr=on&ft=on&ff1=subElementary+School+Students&id=EJ1067248

In addition to improving students' ability to focus and in turn learn, increasing physical movement in schools has also been shown to positively impact emotional wellbeing (Perera, 2015). Brain Break activities are five to seven minute interactive videos designed to give students a way to release energy through movement, and consequently be able to have better focus on tasks afterwards. Research found that increasing movement throughout the day also led to behavioral improvement (Holmes, 2013). When students were required to be kinesthetically involved in activities, such as standing up and clapping every time a question is

answered correctly, they tended to be more calm and experience more meaningful learning with higher rates of retention.

Conclusion

First graders are currently living through unprecedented times, and many are struggling. All levels of their environment have been affected by the COVID-19 pandemic, which has further limited their opportunities for physical activity throughout the school day. Incorporating Brain Breaks and the use of therapy balls could potentially improve students' ability to focus and learn, positively impact their emotional wellbeing, and decrease their risk for chronic illness.

Method

For this Capstone Project I investigated how parents and teachers view the amount of physical activity during school, and what they think could be done to improve it. Based on an analysis of the data and the relevant research literature, I used what they have shared to formulate an action that responds to the level of activity in a way that inspires, informs, or involves a particular audience.

Context

River Glen[1] is a K-5th elementary school located in the small, family-orientated town of Willow Hills. According to the school's most recent SARC report, published January 26th, 2021, River Glen educates 530 students. Of these students, 12% are socioeconomically disadvantaged, 12% have diagnosed disabilities, and about 4% of students are English learners. There are currently 82 students enrolled in first grade at River Glen, split among three teachers; two teachers now offer hybrid schedules while the third is strictly virtual learning. Mrs. Rossi is one

[1] Pseudonyms have been used to replace all names of places and people.

of the hybrid instructors which means her days are split between teaching both in-person and online. Each of her students are designated two, three-hour in person school days, and three virtual school days.

Participants and Participant Selection

I invited four parents as well as a teacher to participate in this study. This group of prospective participants were invited to participate because they all have children in first grade at River Glen Elementary School, or work with them first hand.

Amanda Jones. A married, stay-at-home, white female parent of a first-grade boy in Mrs. Rossi's class. She also has a daughter in third grade.

Brenda Marsh. A married, Irish-immigrant female parent of a first grade girl in Mrs. Rossi's class. She also has two sons, ages 19 and two years. They all live together in a two bedroom mobile home.

Maria Gomez. A Mexican, single mother of a first grade girl in Mrs. Rossi's class. She also works full time at the school.

Maya Lopez. A married, Mexican female parent of a first grade boy in Mrs. Rossi's class. She also has a four year old son.

Kathy Rossi. A white female who has taught first grade for the past 18 years. She has a Master's degree in Education and has two elementary-aged children of her own.

Researcher

My son is in first grade, so I have seen and experienced first hand what a challenge it is

for him to have to sit still and focus for so many hours at a time. I worked as his teacher's aide for two years prior to virtual school, so I have seen him and other children struggle with controlling their bodies and focus both in the traditional classroom and working from home. I have worked hard to support and accommodate my son as much as possible which has helped him significantly, so I would like to be able to assist other students with this as well.

I am similar to the parents who are wanting to help their children because I too am one. I know first hand how frustrating it is to see my child struggling in school and wonder how I can support them. I also relate to the teachers who want to help their students as much as possible, but feel limited in the ways they can assist students during this time because I view that as my future career.

Throughout this interview process I remained mindful that my experiences with supporting my son are not representative of all students' experiences. I have also already found that quite a few students have struggled with weight gain since switching to virtual school. I know this can be a very sensitive topic for many people so I was sure to tread lightly when that topic came up in interviews.

Semi-Structured Interview and Survey Questions

Parent Questions

1. What do you know about how physical activity plays a role in your child's learning experience? What do you see as the challenges with physical activity during school hours?

2. What is currently being done to increase the amount of physical activity by your child's

teacher and what are the strengths and weaknesses of these efforts?

3. What do you think should be done about the lack of physical activity incorporated throughout the school day?

4. What do you think are the challenges to doing something about the lack of physical activity?

5. Is there anything else that you would like to say about the lack of physical activity for your child throughout the school day and/or the improvement of it?

Teacher Questions

1) How long have you been a teacher?

2) Overall has your students' academic progress changed or stayed consistent since moving to a virtual format? Please share any examples you can think of.

3) What have been the top challenges your students have faced since moving to a virtual format?

4) How has the change affected your student's amount of physical activity during school hours? Does it concern you?

5) If you answer "yes" to the previous question, do you have any suggestions on how a community partner could assist in promoting more opportunities for physical activities?

Procedure

Participants were interviewed. All interviews were done individually and virtually due to the COVID-19 pandemic. Participants were invited to complete either a phone interview or an email survey of the questions. All interviews were scheduled at the convenience of the interviews and took approximately 20 minutes to complete.

Data Analysis

Transcribed interviews were coded and analyzed for emergent themes.

Results

For this Capstone Project, four parents and one teacher were interviewed to share what they think could be done to improve the physical activity of first-graders throughout the school day. This is important because students are struggling, now during the pandemic more than ever, with the increased restrictions on their ability to move their bodies the amount necessary to remain mentally and physically healthy. All of the parents and teacher interviewed agree that students are suffering due to the lack of movement throughout their school day, but none had any specific suggestions of possible solutions. It quickly became clear that finding time was a major constraint for parents and teachers alike. One mom stated, "A challenge I see during school hours is that they don't have enough time to focus on physical activity when they have so much material to cover and limited zoom hours"(B. Marsh, personal communications, March 27, 2021). The other parents shared similar concerns which also included one mother worrying about the excess weight her daughter had gained since switching to virtual learning (M. Gomez, personal communications, March 27, 2021). Based on an analysis of the data and the relevant

research literature three themes emerged (see Table 1). Evidence-based decision making required evaluating each potential Action Option by the following criteria: cost; accessibility; and reasonableness of implementation. The cost of each option will be assessed by the amount of money each school or parent will have to pay to put it into practice. The accessibility will determine who will be able to use and benefit from the proposed option. Lastly, the options will be evaluated for reasonableness by how realistic they are to put into practice. Based on the evaluation of each Action Option an action will be recommended and justified.

Table 1

Evaluation of Action Options

	Cost	Accessibility	Reasonableness
Therapy Balls	1	2	1
Brain Breaks	3	3	3
Moveable Class Management Style	3	3	3

The options are judged 1-3, with 1 being the worst and 3 being the best.

Option 1: Using Therapy Balls Instead of Chairs

A common concern that showed in the data were comments such as, "My son has lots of energy and I can tell it is really hard for him to pay attention to his teacher on zoom. A challenge I see during school hours is that they don't have enough time to focus on physical activity when

they have so much material to cover and limited zoom hours" (A. Jones, personal communications, March 27, 2021). An option that would allow for students to relieve some of their excess energy without the need of extending school time is to have them seated on therapy balls during class time. The data that supports this option's effectiveness suggests that a wide ranging implementation could have far reaching benefits for all students. As previously mentioned, researchers found that therapy balls as seating leads to a more effective learning environment than standard chairs, with their study revealing that 50% of students stayed on task in chairs, while 85% of students stayed on task while sitting on therapy balls (Burgoyne, 2015). According to Amazon.com, the most inexpensive, full size balance ball costs $11.99 per ball. The average American public school has approximately 506 students (Public School Review, 2019). To implement therapy balls for every student, each school would pay at least $6,066.94 for the most basic, inexpensive model of balls. With regular use, the lifespan of each ball ranges from two to five years, which would require that expense to be made on a somewhat regular basis. In addition to the cost of the balls, teachers, or other school employees, would also have to be compensated for the time it takes to manually pump up the balls, and the ongoing maintenance of keeping them inflated. This cost would depend on the hourly salary of the employee used for this duty. The accessibility of this option would be limited to students who have full physical mobility. Children who are limited in their movement and or balance should not use therapy balls as seats for their own safety as well as their classmates. The reasonableness of this option would depend on the attitudes of the administration and parents. It is important to consider that if students continue a hybrid schedule, the therapy ball would most likely remain either at the students home or classroom, whichever they spend the most time. It would take

substantial money and effort to put this into place, so the enthusiasm and support from the school community may have a positive or negative impact on the reasonableness of implementation.

Option 2: Incorporating Brain Breaks into Daily Routines

Due to a comment by one mother, "Like I said, I bet it is hard to come up with engaging ways to get kids moving when it's all virtual. Maybe doing an activity as a class before school starts would be helpful to get some wiggles out for everyone" (A. Jones, personal communications, March 27, 2021), Brain Breaks (Perera. 2015) came to the forefront as a possible solution. Brain Breaks were first researched and created by students specializing in sports exercise and media at Oregon State University to counteract the decrease in required physical education after many P.E. classes were removed. They designed the videos in short segments that could be done both in a classroom setting and at students' homes, with a limited amount of time. In the videos, student athletes demonstrate the moves in a fun and engaging way. The moves focus on stretching, flexibility, as well as strengthening and aerobic exercises, which would be beneficial to students like Maria's, given that "Right now my daughter gets a weekly PE assignment, but those only last about 10 minutes. I think she needs more than that to help her be healthy. I wish she could have more frequent chances to move throughout the day" (M. Gomez, personal communication, March 27, 2021)**.** There are currently two Brain Break DVD's for sale; Brain Breaks 1 is $5, Brain Breaks 2 is $14.95, or they can be purchased as a bundle for $17.95, however many similar videos can be accessed via youtube for free. A list of such videos can easily be made into a playlist and provided to teachers at no cost. Although not every student would be able to fully complete all of the physical moves demonstrated, every student could still participate to the best of their ability, even if that meant doing a modified version. The reasonableness for this option is high, based on the other criteria. It is relatively affordable and

would benefit all of the participating students. It would not be difficult for school districts to implement the use of these Brain Breaks on a daily basis to supplement physical education.

Option 3: Moveable Classroom Management Style

With the ever evolving pandemic regulations, an option that meets students' needs both on campus and in their homes is necessary. As mentioned by one parent, it is also important to keep in mind that, "Not everyone has a big back yard to play in. People have different home situations so you can't tell everyone to do the same activities when not everyone can afford the equipment or has the space" (M. Lopez, personal communications, March 27, 2021). The "Moveable Class" management style is an option that meets all of those requirements. It was created by an English teacher, Kevin McCaughey (2018), working in Africa. His goal was to find a way to get his students moving with the limited resources available to them. With this approach, activities become more student centered, group work becomes more effective, and the children become more engaged. According to Mrs. Rossi, "...the top challenge since moving to virtual is that we are asking the students to sit and focus for a long period of time. In the classroom we are constantly moving, changing activities, etc. Over zoom, I have a short window of time each day that I get to work with the students so they need to sit and focus for longer periods of time which is hard" (K. Rossi, personal communications, March 27, 2021). This challenge can be improved both during virtual and in person learning by implementing this option. The Moveable Class Management Style requires only that the teacher is willing to implement more tasks involving movement from their students. Some of the movement methods it suggests are called stand-up breaks, fast action breaks, and human shapes. Stand up breaks ask the students to stand up from their seats and walk around the classroom. They can be asked to stand and greet several neighbors, asked to walk across the room and manually sign their name

on a piece of paper to show participation, or simply to stand up when they are called on to give an answer. Fast action breaks are described as taking standing breaks to another level. Some examples of these tasks are surprise three-minute dance breaks, pantomiming actions such as chopping wood, hiking up a mountain, and climbing up a rope. Human shapes require the students to work together to form different shapes out of their bodies in the classroom. They must work together to move desks and chairs out of the way in order to cohesively make the requested shape. These on-the-spot activities get the students moving while they think, and working together as a class. While it may be a while before this time of collaboration work is deemed safe due to COVID-19, it can easily be adapted to meet the current safety guidelines. The cost is nothing, since there are no outside materials needed to be purchased. Accessibility is limited to students physically able to stand up and move around the classroom on their own. Students with physical disabilities that prevent them from standing up and moving around would be unable to participate in the reconfiguring of the classroom and pantomime drills. The reasonableness of this activity ranges from high to moderate, as it would not cost any money, a majority of the students would be able to participate both in the classroom and at home, and it could be easily integrated into everyday routines, however depending on local COVID-19 safety requirements, distance between students may have to be maintained.

Recommendation

After examining the available options for increasing physical movement in first grade classrooms, and based on the criteria of cost, accessibility, and reasonableness, it is recommended that schools implement Brain Breaks and a Moveable Classroom Management Style.

Limitations

While these recommended options are supported by extensive research, it is important to acknowledge their limitations. While the future remains uncertain due to the pandemic, the safety associated with moving around the classroom in close quarters shifts depending on the local case numbers. Additionally, some of the studies used in support of this topic were conducted five or more years ago. Although their findings remain valid, there may have been shifts in the data since then. In addition to a lack of current research, there is also not any data to suggest the exact amount of time needed throughout the day to experience the benefits of lowered BMI and increased focus and learning. It is also important to note that the study done by Burgoyne (2015) relied on qualitative data of students' experiences observed by researchers. Despite their best efforts to remain neutral, it is possible that the data could be skewed by an individual's bias while reporting.

Concessions

Although replacing standard chairs with therapy balls was not one of the ultimately recommended options due to its cost and lack of reasonableness, its benefits remain valid. The study done clearly shows an increase in students' attention span and ability to focus on tasks. If all students used therapy balls as seating, students would be able to constantly and consistently engage their vestibular and proprioceptive systems which could lead to increased and deepended learning. Schools would benefit through the resulting higher test scores and potential for subsequent increases in funding. Students would also be more likely to move throughout the day, which could potentially lead to a decrease in overall BMI.

Justification

Even though using therapy balls as seating has the potential to increase academic success, Brain Breaks and implementing a Moveable Classroom management style are ultimately the best

options based on cost, accessibility and reasonableness. It is recommended to combine both of these options to get the best academic, behavioral, and health benefits for first grade students.

Due to the Moveable Classroom management style being free of cost, the total cost per average US elementary school would be at most $302.75 for the Brain Breaks DVD set. While this amount is reasonable as is, it could be reduced even further if needed. Because there are multiple methods being used, two classes could potentially trade off DVDs on a regulated schedule. This would bring the overall cost down to $151.38 per school.

Due to the relatively low cost and widespread accessibility, using both Brain Breaks and the Moveable Management style, these options post the most reasonable solution to the problem at hand. Together, they solve the pervasive issue of lack of physical movement with very little financial sacrifice.

Consequences and Implications

A possible consequence would be time taken away from teaching. Brain Breaks do require class time to be set aside for the movement activities. While it would be ideal to have many breaks throughout the day for movement, it may not be possible to accommodate that with the limited amount of time allotted to accomplish academic goals as well. It would be up to the individual teacher to decide the amount of time available to allocate to Brain Breaks.

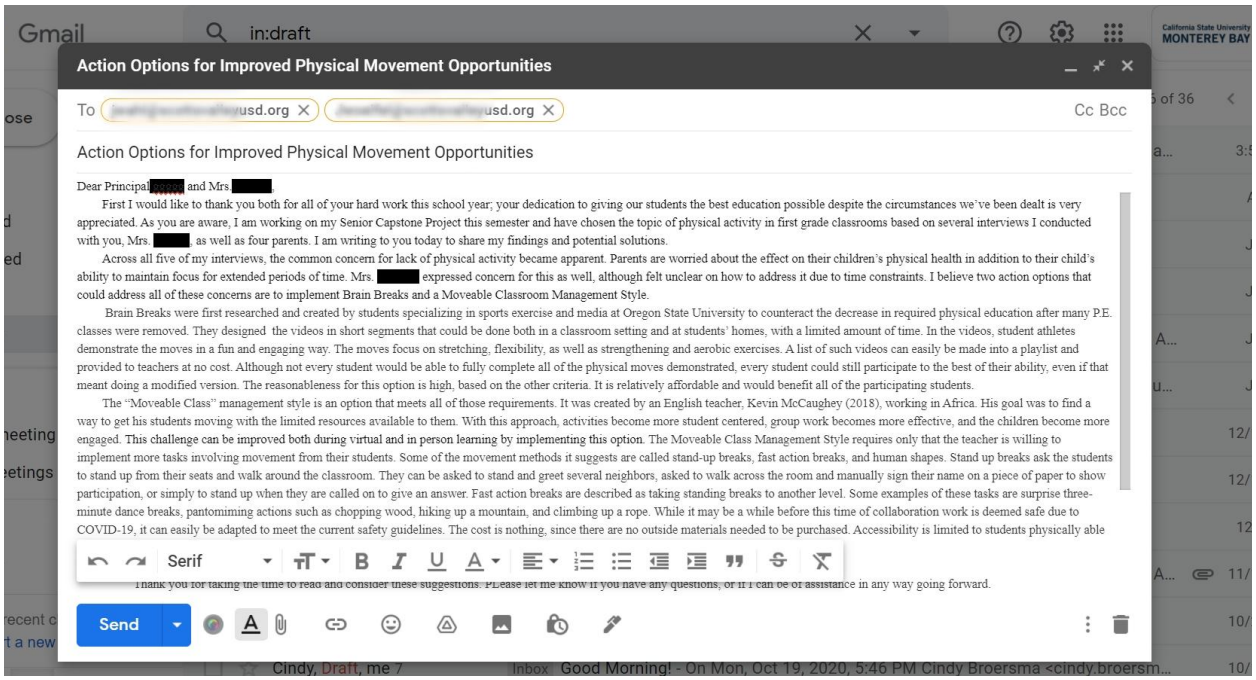
The combination of methods allows for accessibility for all students. Even if some students are confined to a wheelchair, or are physically limited in other ways, they can still participate in a modified manner. These modified activities would make it possible for every student to reap the benefits of increased physical activity throughout their daily routines. They would also be beneficial for improving classroom behavior. The increase in movement has been shown to increase mental health and lower levels of aggression (Holmes, 2013).

Conclusion

Incorporating Brain Breaks and a Moveable Classroom Management Style could potentially improve students' ability to focus and learn, positively impact their emotional wellbeing, and help to decrease their risk of chronic illness. Teachers hold the power to positively influence their students' daily habits, and become more healthy and active children. By implementing the recommended options, students will be better equipped, both while learning from home and in the classroom, to reach their full potential.

Action Documentation and Critical Reflection

I chose to focus on the need for more physical movement throughout the school day for first graders because I have seen my son struggle with this issue first hand. In order to gauge whether this was also an issue for others, I interviewed four other parents of first graders as well as my son's teacher. Through these interviews I confirmed that the lack of physical movement throughout the day was negatively affecting many first graders. The action options that emerged were to use therapy balls as seating instead of standard chairs, implement Brain Breaks throughout the day, and to adopt a Moveable Classroom Management Style. I ultimately chose to move forward with the Brain Breaks and the Moveable Classroom Management Style because they were the most accessible, affordable, and reasonable options. In order to implement these options I sent the following email to my son's first grade teacher and principal to share the information and potential solutions I have found.



Included in this email is a list of 17 links for free Brain Break videos that can be used:

ttps://www.youtube.com/watch?v=dh-9k8XfLzY&list=PLG5Bp-aniw53Z85XkXHaYgKlNCPw7ExCa

(GoNoodle Playlist - 13 videos)

https://youtu.be/ri8rkTnCedU (High Hopes- 4 mins)

https://youtu.be/v_U7ERmMGzU (Gummy Bear- 2.5 mins)

https://youtu.be/nBh7yWbNOfY (Hawaiin Roller Coaster- start 40 secs, 2 mins)

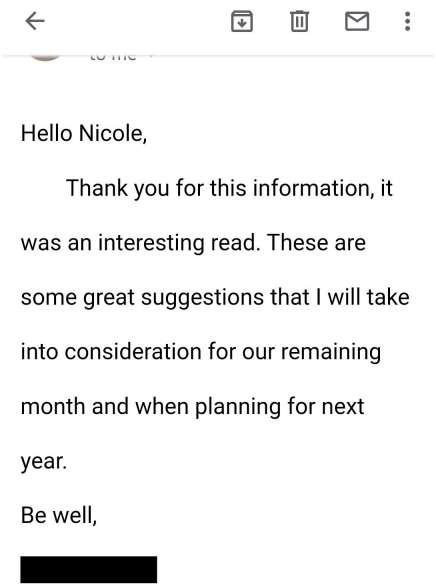
https://youtu.be/KhfkYzUwYFk (Can't Stop the Feeling- 3 mins)

https://youtu.be/MMCebyg4tZg (Freeze Dance- 3 mins)

https://youtu.be/f3XyYOLfTU4 (Justin Beiber- 5 mins)

Action Research Project Documentation and Reflection

I chose to send this information to this teacher and principal because I believe they are the ones in the position to implement these changes in order for first grade students to reap the benefits. While I have not yet heard back from the principal, I did receive this response from the teacher:



Hello Nicole,

Thank you for this information, it was an interesting read. These are some great suggestions that I will take into consideration for our remaining month and when planning for next year.

Be well,

[redacted]

I was pleased that the teacher found my suggestions useful and hope that their implementation proves beneficial. While researching this issue I did not expect to find solutions that would be free of cost and easily implemented, so it was a nice surprise to find two of them. I found myself needing to modify my actions several times in order to make them applicable to both virtual and in-person learning. During the course of this project the first grade classroom I was focusing on continually changed formats from 1completely virtual, to hybrid, and finally to completely in person. This was a challenge when trying to keep my project cohesive, but it ultimately worked out with the suggestion of Brain Breaks and the Moveable Classroom Management Style which can be used across all three formats. law

From completing this project I have learned that my child's struggle with sitting still for so long is not unique to him, and it is something many children have a difficult time with. While it is reassuring that we are not alone, it is disheartening that it is such a common issue with so few proposed solutions currently in place. Going forward I believe that an important step to take would be to propose a change in law mandating that the minimum amount of physical activity be increased for children during the school day.

Synthesis and Integration

The Liberal Studies MLOs, the required coursework, and this Action Research Project has definitely positively impacted my professional development. As recommended in MLO 1, this work has led me to think, write, and speak critically about the current responsibilities of California public educators in a variety of contexts. This not only allowed me to deeply learn how systems are currently set up, but also to think about which flaws are worth fighting to change. I aspire to be a teacher that takes the appropriate steps necessary to improve the environment around me in order to give my future students the best education possible.

In accordance with MLO 2, this project also brought to light how powerful of an impact students' diverse and unique home lives play on their ability to receive an equitable education. The pandemic illuminated the vast differences in resources for students, and I believe we as teachers should play a role in trying to close the gap so that every single student has an opportunity to learn and feel supported.

Lastly, the presentation of this project met the requirement of MLO 3 by requiring an effective use of technology to present my research. I typically struggle with anything above basic computer functions, so I was really pushed outside of my comfort zone while completing this aspect. Despite my lack of background knowledge and skill, I believe I made a video which

conveys everything I intended it to.

The necessary next step that I see myself needing to take to become the professional that I aspire to be, is to complete the credential program. I have been accepted into the program and will begin it next month. I am both nervous and excited for this new challenge. I am nervous because I know that I have a lot of growth I will need to achieve in a relatively short amount of time. I feel a lot of pressure to learn as much as I possibly can, since I know the quality of my future student's education depends on it. I take that as a very serious responsibility and I want to ensure I give it my all. I am also extremely excited to move closer to what I know will be a very meaningful and worthwhile career. I greatly appreciate everyone and everything, including this project, which has brought me closer to achieving my goals.

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